

148. A computer readable storage medium storing a program to make a computer perform an authentication by:

detecting a plurality of coordinates, input via a specifying member which specifies a plurality of discontinuous different coordinates; and

determining a relationship between the plurality of detected coordinates and a plurality of registered coordinates.

149. The storage medium as claimed in claim 148, wherein said determining further comprises:

comparing the plurality of detected coordinates and the plurality of registered coordinates and outputting a compared result, and

authenticating based on the compared result.

150. The storage medium as claimed in claim 148, wherein said determining further comprises:

comparing an order of the plurality of detected coordinates and an order of the plurality of registered coordinates and outputting a compared result of the orders, and

authenticating based on the compared result.

REMARKS

On August 15, 2001, a Preliminary Amendment was filed presenting claims 1-75 for examination. Applicants respectfully request that that Preliminary Amendment be disregarded as the claims were incorrectly numbered. Claims 76-150 are now presented for Examination.

The above-referenced application filed on April 16, 2001 is a continuation application under 37 C.F.R. §1.53(b) of and claims priority under 35 U.S.C. § 120 to the parent application having U.S. Serial No. 09/084,323 filed on May 26, 1998, now pending. In addition, foreign priority benefit under 35 U.S.C. § 119 is claimed to Japanese Application No. 9-264839, filed September 10, 1997 and Japanese Application No. 10-94592, filed April 7, 1998. A certified copy of the priority document was filed in the parent application U.S. Serial No. 09/348,166 with Examiner Jeffrey S. Leaning in Group/Art unit No. 2131.

Claims 1-3, 5-7, 10, 12-23, 26, 28-43, 46, 48-52, 65-73, 75-89, and 93-101 were canceled claims from the parent application, from which the above-referenced application

claimed priority, and are presented for consideration in the present Preliminary Amendment as renumbered claims 76-150.

In accordance with the foregoing, please cancel claims 1-75 as filed in the Preliminary Amendment of August 15, 2001 and consider claims 76-150 as the pending claims for the above-referenced application.

REJECTION UNDER 35 U.S.C. § 102:

On page 2 of an Office Action issued in the parent case having U.S. Serial No. 09/084,323 of the above-identified application, CLAIMS 76, 88, AND 105 (former independent claims 1, 17, and 37 in the parent case) were rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 5,970,146 to McCall, et al. ("McCall"). Specifically, the Examiner viewed that McCall is directed to a touch screen and a user may use his or her finger to specify a plurality of discontinuous coordinates by simply typing. Reconsideration of the prior rejection is requested.

More particularly, on page 3 of the Office Action, claim 76 and related dependent claims were rejected as being anticipated by McCall. The Examiner refers to column 4, lines 1-43, of McCall where a computer system 20 operates in an encrypted mode. Specifically, in lines 1-20 of McCall, a CAT 24 is coupled to an ATM card or credit card reader (not shown). The CAT 24 is also connected to a credit card network through a POS system 25 and a phone line 24. Whenever a user passes his card through the card reader and the card reader "reads" information magnetically encoded thereon such as the user's bank and account number, the CAT 24 sends an encryption request to a system controller 16 through a bus 40. Upon receipt of the encryption request, the system controller 16 notifies a touch screen computer 22 that a card has been read. In contrast, the touch sensor of claim 76 detects "a plurality of coordinates, input via a specifying member which specifies a plurality of discontinuous different coordinates," emphasis added. McCall does not teach or suggest that the card reader reads a plurality of coordinates. Further, McCall does not teach or suggest that the ATM card or credit card specify a plurality of discontinuous different coordinates as recited in claim 76, rather, the information in the cards is magnetically encoded thereon.

Further, referring to lines 21-43 of McCall, in response to being notified that a card has been read, the touch screen computer 22 sends commands to the graphics display 26 to display a video keypad image 26a. At the same time, the system controller 16 sends a video keypad

map 12a (which corresponds with the video keypad image 26a) to the system controller 16 through the RS232 bus to receive the user's PIN. The user then enters his PIN by depressing portions of the touch screen 12 corresponding to the video keypad image 26a. The touch screen controller 14 returns touch screen coordinates for the un-encrypted PIN to the system controller 16, which interprets them using the video keypad map to produce the un-encrypted PIN.

However, McCall fails to teach or suggest the specifying member, which specifies a plurality of discontinuous different coordinates as recited in claim 76. "To anticipate, a prior art reference must disclose each and every element of a claimed invention, or their equivalents, and the elements must function in substantially the same way to produce substantially the same result." There must be "... identity of structure, purpose and result ... to make out anticipation within the meaning of 35 U.S.C. §102." See Tate Engineering, Inc. v. U.S., 477 F.2d 1336,175 U.S.P.Q. 115,119(Ct.Cl.1972).

Column 4, lines 1-43, of McCall fail to teach or suggest all the claim limitations of claim 76. McCall merely discloses a ten-key display on a touch screen, and does not use a specifying member in combination with the touch screen as recited in claim 76. Instead, in McCall, the user inputs data by touching specific portions of the touch screen. That is, the touch screen computer 22 sends video data to the display 26, prompting the user to supply input data directly, by touching specific portions of the touch screen 12. The specific portions of the touch screen 12 are not provided via a specifying member including a plurality of discontinuous different coordinates as recited in claim 76. Further, because claim 88 is somewhat related to claim 76, Applicants hereby incorporate the arguments presented supporting the patentability of claim 76 to claim 88. Therefore, claims 76 and 88 and related dependent claims are allowable.

Claim 105 recites "a computer readable storage medium storing a program to make a computer perform an authentication by: detecting a plurality of coordinates, input via a specifying member which specifies a plurality of discontinuous different coordinates." Applicants incorporate herein the arguments presented supporting the patentability of claim 76 to support the patentability of claim 105. Accordingly, claims 76, 88, and 105 and related dependent claims are patentable.

REJECTION UNDER 35 U.S.C. §103:

On page 4 of the Office Action issued in the parent case, claim 77, 89, and 106 (former claims 2, 18, and 38 in the parent case) were rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 4,656,662 to Filliman, et al. ("Filliman"). According to the Examiner, Filliman teaches a CRT screen, which corresponds to the "detecting means." Coordinates are input to a coordinate detector, see column 7, lines 30-62. According to the Examiner, the user's hand acts as the "member." The Examiner also took official notice that identification is used for authentication purposes such as for financial transactions. Reconsideration of the prior rejection is requested.

The Examiner focuses on the abstract and column 7, lines 30-62, of Filliman as teaching the claim limitations recited in claim 77, claim 89, and claim 106. Filliman is directed to a method and apparatus for personal identification employ the combination of a CRT and a light pen for the generation of a signature or other identification indicia by movement of the light pen on the CRT screen. Positional information is captured from the screen by the light pen and is compressed and collected to form a signature or other indicia representation, which can be stored and subsequently used as a reference for identification purposes.

In Filliman column 7, lines 30-62, describes a process to compress data from average values for each burst, as represented by block 88. The compression algorithm compares the row and column information for the current point with the row and column information for the previous point, and generates a series of short vectors between the points. The series of 3-bit vector orientations define the path of the light pen 14 across the screen of the CRT 12 with a relatively small amount of data. Shortening of the vector length improves the accuracy of the trace of the path. As indicated in block 90, the vector information may, if desired, be fed back to the address inputs of the CRT screen for display of the signature or other identifying indicia on the CRT screen as said information is generated by movement of the light pen across the screen.

In contrast, claim 77 recites "a touch sensor detecting a plurality of coordinates, input by a pointing device, via a specifying member which specifies a plurality of discontinuous different coordinates," emphasis added. Filliman does not teach or suggest the specifying member, which specifies a plurality of discontinuous different coordinates as recited in claim 77. Rather, Filliman employs the combination of a CRT and a light pen for the generation of signature or other identification. The concept of detecting a plurality of discontinuous different coordinates,

via the specifying member of claim 77 is not even broached in Filliman.

Claim 89 recites "a detecting step detecting a plurality of coordinates, input by a pointing device via a specifying member which specifies a plurality of discontinuous different coordinates." Claim 106 recites a computer readable storage medium "detecting a plurality of coordinates, input by a pen, via a specifying member which specifies a plurality of discontinuous different coordinates." As previously set forth, Filliman fails to teach or suggest detecting a plurality of coordinates via the specifying member which specifies a plurality of discontinuous different coordinates as recited in claims 18 and 38. Thus, claims 77, 89, and 106 are patentable in view of Filliman.

On pages 4, 6, 7, 8, and 9 of the Office Action of the parent application the Examiner has, in part, based the rejections on Official Notice. Official Notice can properly be taken of things or features that are notoriously well known. It is submitted that the allegations that "identification is used for authentication purposes such as for financial transaction," as stated on page 4 of the Office Action, that "the practice of 'timing out' authentication procedures," as stated on page 6, etc. is notoriously well known is incorrect and the allegations are based on the Examiner's personal knowledge and not based on prior art. The Examiner is requested to support the allegation with prior art or an affidavit under as required 37 CFR § 1.107(b). Otherwise, the rejection is without a proper foundation and should be withdrawn which is requested.

On page 5 of the Office Action of the parent application, the Examiner rejected claims 79, 82, 83-86, 90, 95, 96-99, 109, 112, 113-116 (former claims 5, 10, 12-15, 21, 26, 28-31, 41, 46, and 48-51 in parent case) under 35 U.S.C. § 103(a) as being unpatentable over McCall. Claims 79, 82, 83-86, which depend on claim 76 are allowable for the structures recited therein and for the reasons set forth in claim 76. In view of the Examiner taking official notice of the practice of "timing out" authentication procedures, even assuming, arguendo, that the teachings of McCall and the Examiner's official notice are combined, such a combination would not teach or suggest "a touch sensor detecting a plurality of coordinates, input via a specifying member which specifies a plurality of discontinuous different coordinates" as recited in claim 76. Thus, claims 79, 82, and 83-86 are allowable. If the Examiner wishes to maintain the official notice, the Examiner is requested to support the allegation with prior art or an affidavit under as required 37 CFR § 1.107(b). Otherwise, the rejection is without a proper foundation and should be withdrawn which is requested.

Further, claims 90, 95, and 96-99 that depend on claim 88 are allowable for the structures recited therein and for the reasons set forth in claim 88. Similarly, claims 109, 112, and 113-116 that depend on claim 105 are allowable for the structures recited therein and for the reasons set forth in claim 105. McCall clearly shows that the user must supply the input data by touching specific portions of the touch screen 12, column 3, lines 56-60. However, in claims 76, 88, and 105, detecting coordinates input from a touch sensor is not specifically limited by the user's finger supplying the coordinates input.

On page 7 of the Office Action of the parent application, claims 101-104 (former claims 33-36 in the parent case) were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 3,304,411 to Blodgett ("Blodgett"). This rejection is traversed and reconsideration is requested.

Blodgett is directed to a punch-card reader for reading positions of punched holes in punched cards. As noted by the Examiner, Blodgett fails to teach or suggest a card having perforated parts, wherein each of the perforated parts is removable by punching a hole through which an input can be made by a pointing device to the coordinate detector. As a result, the Examiner takes official notice that perforations on paper-like material render the material easily punched. In contrast, in claim 108, the plurality of perforated parts in the card allows the user to easily form the holes at arbitrary perforated parts, without the need to use a special punching machine. Thus, claim 108 and related dependent claims are allowable.

On page 8 of the Office Action of the parent case, claims 76, 78, 81, 88, 92, 94, 105, 107, and 111 (former claims 1, 3, 7, 17, 19, 23, 37, 39, and 43 of the parent case) were rejected under 35 U.S.C. § 103(a) as being unpatentable over Blodgett in view of U.S. Patent No. 3,849,631 to Merlino, Jr. et al. ("Merlino"). Reconsideration is requested. Blodgett is directed to a punch-card reader for reading positions of punched holes in punched-cards. The punched-cards require a special machine for punching holes therein. Blodgett fails to teach or suggest the touch sensor and the comparing unit recited in claim 76. Further, Blodgett fails to teach or suggest "detecting a plurality of coordinates, input via a specifying member which specifies a plurality of discontinuous different coordinates," as recited in claims 76, 88, and 105.

Merlino is directed to a card reader capable of automatically reading coded information from cards, the information being encoded in information fields that may vary in the length of columns and rows from card to card, such fields being referenced with respect to two predetermined orthogonal edges on each card. See column 2, lines 35-60. When a card is

being advanced through the reader past a reading station, a circuit that is triggered by a column count wheel generates a signal each time that a column of information is in position to be read. Merlino fails to teach or suggest the touch sensor and detecting a plurality of coordinates as recited in claims 76, 88, and 105. Thus, even assuming, arguendo, that the teachings of Blodgett, Merlino, and the Examiner's taking official notice were combined, the combination of all elements for the authentication apparatus in claims 76, 88, and 105 and dependent claims would not be provided.

The Examiner concedes that Blodgett fails to teach a comparison for purposes of authentication. The Examiner also asserts that "it would have been obvious for one of ordinary skill in the art to modify the invention of Blodgett to send the electronic signals to a computer for the purposes of comparison for identification authentication because of the expedient of using tokens for authentication." The Examiner provides no suggestion or motivation from any reference to provide for a touch sensor detecting a plurality of coordinates, input via a specifying member which specifies a plurality of discontinuous different coordinates as claimed in the present invention. The Federal Circuit has cautioned that an Examiner must show reasons that the skilled artisan, confronted with the same problems as the inventor and with no knowledge of the claimed invention, would select the elements from the cited prior art references for combination in the manner claimed. In re Rouffet, 47 USPQ2d 1453, 1458 (Fed. Cir. 1998).

On page 10 of the Office Action of the parent application, the Examiner challenges the Applicants to state a substantive difference between the covered apparatuses of claims 118 and 125 (former claims 65 and 72). Claim 118 is directed to an authentication apparatus comprising a touch sensor detecting a plurality of coordinates, input via a specifying member which specifies a plurality of discontinuous different coordinates, a comparing unit, and an authentication unit. In contrast, claim 125 is directed to an authentication apparatus comprising a detecting unit detecting a plurality of coordinates, input from a touch sensor, via a via a specifying member which specifies a plurality of discontinuous different coordinates, a comparing unit, and an authentication unit. Applicants respectfully assert that both claims are structurally and functionally substantially distinct. It would be our position that claims 118 and 125 differ from one another and a person of ordinary skill in the art should have no difficulty in understanding the scope of protection. Further, the court in In re Wakefield, 422 F.2d 897, 902, 164 USPQ 636, 639 (CCPA 1970) has held that although "examination of [many] claims in a single application may be tedious work, but this is no reason for saying that the invention is

obscured by the large number of claims. We note that the claims were clear enough for the examiner to apply references against all of them in his first action."

On page 11, claims 118-122, 125, 126, 127-141, and 142-150 (former claims 65-69, 72, 73, 75-89, and 93-101 in the parent case) were rejected under 35 U.S.C. § 103(a) as being unpatentable over McCall. This rejection is traversed and reconsideration is requested. Claim 118 recites "an authentication apparatus comprising: a touch sensor detecting a plurality of coordinates, input via a specifying member which specifies a plurality of discontinuous different coordinates; a comparing unit comparing an order of the plurality of detected coordinates and an order of a plurality of registered coordinates and outputting a compared result of the orders; and an authentication unit carrying out an authentication based on the compared result," emphasis added. Applicants incorporate the teachings of McCall and arguments supporting the patentability of claim 76 in view of McCall to support the patentability of claim 118 and related dependent claims. Further, the Examiner overlooks and, thus, fails to address the functional limitations of the structural elements in claim 118. Specifically, McCall does not teach or suggest a comparing unit comparing an order of the plurality of the detected coordinates and outputting a compared result of the orders. The teachings and arguments presented supporting the patentability of claim 76, in view of McCall, are incorporated herein supporting the patentability of claims 141 and 142.

Furthermore, McCall does not teach or suggest "a detecting unit detecting a plurality of coordinates, input from a touch sensor, via a specifying member which specifies a plurality of discontinuous different coordinates" as recited in claim 143. Rather, as previously set forth, McCall teaches a touch screen computer 22 sending commands to a graphics display 26 to display a video keypad image 26a. Applicants herein incorporate the arguments presented supporting the patentability of claim 76. Similarly, McCall fails to teach or suggest "a detecting unit detecting a plurality of coordinates, input from a touch sensor by a pointing device, via a specifying member which specifies a plurality of discontinuous different coordinates," as recited in claim 144. Referring to claims 125 and 129, Applicants herein incorporate the arguments presented supporting the patentability of claims 143 and 144.

Referring to claim 61 and 62, Applicants herein incorporate the arguments supporting the patentability of claim 143. Further, McCall fails to teach or suggest a detecting unit detecting a plurality of coordinates, input from a coordinate detector as recited in claims 61 and 62.

Referring to claims 138-141, Applicants herein incorporate the arguments presented supporting the patentability of claims 136 and 137. Referring to claims 142-150, McCall teaches a data encrypted touch screen that is used to input a PIN. The touch screen is coupled to an epoxy mass in which a touch screen controller, a system controller and a data encryption (DES) module are embedded. Thus, McCall does not teach, nor remotely suggest; using a specifying member that specifies a plurality of discontinuous different coordinates. McCall displays a ten-key on the touch screen, and does not use the specifying member as recited in claims 142, 145, and 148 that is independent of the touch screen.

On page 12 of the Office Action of the parent application, item numbered a(i), in the response to the arguments presented in our Amendment filed on July 18, 2000, the Examiner stated that with regard to claims 76, 88, and 105, the disclosure of McCall is directed to a touch screen. A user may use his or her finger to specify a plurality of discontinuous coordinates by simply typing. Thus, the Examiner finds that our argument that McCall does not disclose that data is input by a member that specifies a plurality of discontinuous different coordinates unpersuasive. However, as disclosed in McCall, column 7, lines 27-29, "the user enters his PIN by depressing portions of the touch screen 12 corresponding to the video keypad image 26a." The video keypad image 26a, as illustrated in Fig. 2 of McCall, is not a specifying member as recited in claims 76, 88, and 105 that is used in combination with the touch screen 12. Rather, the video keypad image 26a is an image of a ten-key display on the touch screen 12. On page 13 of the Office Action of the parent application, item numbered b(i), the Examiner asserted that the disclosure of Filliman is directed to a CRT screen and a light pen. A user may use his or her hand to specify a plurality of discontinuous coordinates by simply pointing the pen. It must be emphasized that, according to claims 76, 77, 88, 89, 105, and 106, the member is a specifying member, which specifies a plurality of discontinuous different coordinates. Applicants fail to understand how the user's hand can act as the specifying member. It is the Applicants' position that the user's hand cannot act as the specifying member because the hand cannot include a plurality of discontinuous different coordinates, such as holes or openings. In view of the foregoing, it is respectfully requested that the prior art, individually or combined fail to teach or suggest all the claim limitations recited in claims 76-150.

CONCLUSION:

Accordingly, there being no other outstanding objections or rejections, it is respectfully submitted that the application is in condition for allowance, which action is earnestly solicited.

Serial No. 09/835,128

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

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